

WE CLAIM:

1. A dual phase stick antiperspirant and/or deodorant product comprising an opaque non-gelled inner core as 20-70 weight % of the total composition and a clear outer shell as 30-80 weight % of the total composition wherein:

(a) based on the weight of the inner core as 100%, the composition of the inner core comprises:

(i) 20-70 weight % of an antiperspirant active powder, provided that the total amount of antiperspirant active in the total product does not exceed 25 weight %;

(ii) 0.1-20 weight % of a filler;

(iii) 2-20 weight % of a binder;

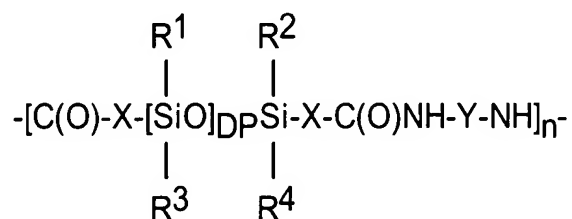
(iv) 1-20 weight % of an emollient;

(v) optionally 0-3 weight % of a surfactant; and

(vi) optionally 0-3 weight % of one or more members selected from the group consisting of coloring agents, and fragrances;

(b) based on the weight of the outer shell as 100%, the clear outer shell is positioned around the inner core and comprises:

(i) 7-15 weight % of siliconized polyamide Formula IIIA:



Formula IIIA

where:

(1) DP is a number in the range of 12-18;

(2) n is a number selected from the group consisting of 1-500;

(3) X is a linear or branched chain alkylene having 1-30 carbons;

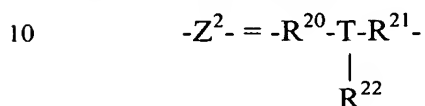
(4) Y is selected from the group consisting of linear and branched chain alkylenes having 1-40 carbons, wherein:

(A) the alkylene group may optionally and additionally contain in the alkylene portion at least one of the members of a group consisting of (i) 1-3 amide linkages; (ii) C5 or C6 cycloalkane as a cycloalkylene linkage; and (iii)

phenylene optionally substituted by 1-3 members selected independently from the group consisting of C1-C3 alkyls; and

(B) the alkylene group itself may optionally be substituted by at least one member selected from the group consisting of (i) hydroxy; (ii) C3-C8 cycloalkane; (iii) 1-3 members selected independently from the group consisting of C1-C3 alkyls; phenyl optionally substituted by 1-3 members selected independently from the group consisting of C1-C3 alkyls; (iv) C1 - C3 alkyl hydroxy; and (v) C1 - C6 alkyl amine;

or -Y- = -Z²- where



wherein each of R²⁰, R²¹ are independently selected from the group consisting of linear and branched C1-C10 alkylenes; R²² is selected from the group consisting of linear and branched C1-C10 alkanes; and T is selected from the group consisting of (i) a trivalent atom selected from N, P and Al; and (ii) -CR, where R is selected from the group consisting of hydrogen, methyl, ethyl, propyl, isopropyl, a siloxane chain, and phenyl, wherein the phenyl may optionally be substituted by 1-3 members from the group consisting of methyl and ethyl; and

(5) each of R¹ - R⁴ is independently selected from the group consisting of methyl, ethyl, propyl, isopropyl, a siloxane chain, and phenyl, wherein the phenyl may optionally be substituted by 1-3 members from the group consisting of methyl and ethyl;

wherein the polyamide of Formula IIIA has:

(A-1) a silicone portion in the acid side of the polyamide;

(A-2) an average molecular weight of at least 50,000 daltons with at least 95% of the polyamide having a molecular weight greater than 10,000 daltons; and

(A-3) a polydispersity of less than 20;

(ii) 8-80 weight % of a silicone component comprising at least 8-30 weight % of a volatile silicone and optionally 0-30 weight % of a non-volatile silicone;

(iii) 10-70 weight % of a non-silicone organic material;

(iv) optionally a co-gellant selected from the group consisting of:

0-1.7% dibenzylidene sorbitol (for anhydrous systems); 0- 0.5% 12-hydroxy stearic acid; 0-0.5% amine stearate; 0-0.5% N,N'-hexamethylenebis-(10-undecenamide; 0-
5 5.0% silicone elastomer; and 0-1% N-lauroyl glutamic acid amide;

(v) optionally 0-5 weight % of a glycol component; and

(vi) 0-3 weight % of a surfactant;

wherein the outer gelled phase comprises the polyamide in combination with the silicone and non-silicone organic materials so that the ratio of the non-silicone
10 organic materials to the organosilicone materials is in the range of 10:1-0.01:1.

2. A stick product according to Claim 1 wherein $n = 20-200$.

3. A stick product according to Claim 1 wherein $n = 40-130$.

4. A stick product according to Claim 1 wherein $n = 40-100$.

5. A stick product according to Claim 1 wherein the molecular weight of the polyamide of Formula IIIA is in the range of about 90,000-120,000.

6. A stick product according to Claim 1 wherein the polydispersity of the polyamide of Formula IIIA is less than 10.

7. A stick product according to Claim 1 wherein the filler is selected from the
25 group consisting of (a) inorganic oxides selected from the group consisting of aluminum oxide, titanium dioxide and zinc oxide; (b) silicates selected from the group consisting of silica, fumed silica and magnesium silicates; (c) clay selected from the group consisting of inorganic clays, kaolin and bentonite; (d) particulates selected from the group consisting of talc, talcum powder, zinc stearate, cornstarch,
30 polyethylene in the size range of 10-50 microns, Nylon-12; and (e) mixtures of any of the foregoing.

8. A stick product according to Claim 1 wherein the binder is selected from the group consisting of (a) acrylates copolymers selected from the group consisting of acrylates/polyvinylpyrrolidone copolymers and acrylates/vinyl acrylate copolymers; (b) acrylic acid and its copolymers selected from the group consisting of acrylic acid/acrylonitrogens copolymers; (c) polyvinylpyrrolidone; (d) copolymers of polyvinylpyrrolidone selected from the group consisting of polyvinylpyrrolidone/vinyl acrylate copolymers); (e) agar; (f) algin; (g) C10-200 alkyl alcohols; (h) waxes having a melting point in the range of 40-100 degrees C; (i) gums selected from the group consisting of cellulose gums and xanthan gums; (j) celluloses selected from the group consisting of hydroxyethylcellulose and hydroxypropylcellulose; (k) gelatin; (l) starches selected from the group consisting of glyceryl starch, cornstarch; (m) lanolins; (n) guar selected from the group consisting of hydroxypropyl guar and carboxymethyl hydroxypropyl guar); (o) isopropyl/isostearyl esters; (p) polyethylene glycols selected from the group consisting of PEG-32, PEG-350, and PEG-90M; (q) an agent selected from the group consisting of dibenzylidene sorbitol, 12-hydroxystearic acid, and N-acyl amino acids; (r) dimethicone copolyol; and (s) mixtures of any of the foregoing.

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9. A stick product according to Claim 1 wherein the binder is selected from the group consisting of C10-30 alkyl alcohols.

10. A stick product according to Claim 1 wherein the binder is selected from the group consisting of behenyl alcohol, lanolin alcohol, and polyvinyl alcohol having 50-200 carbons.

11. A stick product according to Claim 1 wherein the binder is selected from the group consisting of natural, synthetic or modified waxes selected from the group consisting of beeswax, candelilla wax, synthetic wax, and silicone wax.

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12. A stick product according to Claim 1 comprising 1-10 weight % of the emollient.
13. A stick product according to Claim 1 wherein the emollient is selected from the group consisting of:
- 5 (a) ethoxylated/propoxylated surfactants having 4-48 carbon atoms and 3-15 EO or PO units;
- (b) oils selected from the group consisting of mineral oil, avocado oil, castor oil, corn oil, jojoba oil, safflower oil, sesame oil, soybean oil, and squalene;
- 10 (c) hydrogenated oils selected from the group consisting of hydrogenated vegetable oil, hydrogenated jojoba oil, and hydrogenated castor oil;
- (d) volatile silicones; and
- (f) mixtures of any of the foregoing.
14. A stick product according to Claim 1 wherein the emollient is selected from the group consisting of:
- (a) ethoxylated/propoxylated surfactants having 4-48 carbon atoms and 3-15 ethylene oxide or propylene oxide units;
- (b) oils selected from the group consisting of mineral oil, avocado oil, castor oil, corn oil, jojoba oil, safflower oil, sesame oil, soybean oil, and squalene;
- 20 (c) hydrogenated oils selected from the group consisting of hydrogenated vegetable oil, hydrogenated jojoba oil, and hydrogenated castor oil;
- (d) and mixtures of any of the foregoing.
15. A stick product according to Claim 1 wherein the emollient is a non-silicone organic material selected from the group consisting of:
- (a) esters selected from the group consisting of isopropyl myristate and C12-15 alkyl lactate;
- (b) guerbet alcohols having 8-30 carbons;
- 30 (c) fatty alcohols selected from the group consisting of stearyl alcohol, myristyl alcohol, oleyl alcohol, and isocetyl alcohol;

- (d) ethoxylated and propoxylated alcohols selected from the group consisting of polyethylene glycol ether of lauryl alcohol that conforms to the formula $\text{CH}_3(\text{CH}_2)_{10}\text{CH}_2(\text{OCH}_2\text{CH}_2)_b\text{OH}$ where b has an average value of 4;; PPG-14 butyl ether, where the PPG-14 portion is a polymer of propylene oxide that conforms to the formula $\text{H}(\text{OCH}_2\text{C}(\text{CH}_3)\text{H})_c\text{OH}$, where c has an average value of 14; PPG-3 myristyl ether which is the polypropylene glycol ether of myristyl alcohol that conforms to the formula $\text{CH}_3(\text{CH}_2)_{12}\text{CH}_2(\text{OCH}(\text{CH}_3)\text{CH}_2)_d\text{OH}$ where d has an average value of 3; and PPG-10 cetyl ether which conforms to the formula $\text{CH}_3(\text{CH}_2)_{14}\text{CH}_2(\text{OCH}(\text{CH}_3)\text{CH}_2)_e\text{OH}$, where e has an average value of 10;
- (e) dioctyl ether;
- (f) octylmethoxycinnamate and octyl salicylate;
- (g) C12-C18 alkyl benzoate and benzoate ester derivatives thereof selected from the group consisting of isostearyl benzoate and octyl dodecyl benzoate;
- (h) isoparaffins having a distillation temperature in the range of 178-207 degrees C;
- (i) dioctyl carbonate;
- (j) paraffins having a distillation temperature in the range of 372-426 degrees C; and
- (k) mixtures of any of the foregoing, provided that the clarity of the gelled shell is maintained.
16. A stick product according to Claim 15 wherein the non-silicone organic material is selected from the group consisting of isolauryl alcohol, isocetyl alcohol, and isostearyl alcohol.
17. A stick product according to Claim 15 wherein the non-silicone organic material is selected from the group consisting of C12-C15 alkyl benzoate, isostearyl benzoate and octyl dodecyl benzoate.
18. A stick product according to Claim 15 wherein the non-silicone organic material is selected from the group consisting of C14-20 straight chain or branched fatty alcohols, isopropyl myristate, PPG-3 myristyl ether, octyl salicylate, isoparaffin

with a flash point in the range of 60-130 degrees C, dioctyl ether, octyl methoxycinnamate, and C12-15 alkyl benzoate.

19. A stick product according to Claim 1 wherein the volatile silicone is a D5
5 cyclomethicone, a D6 cyclomethicone or mixture of D5 and D6 cyclomethicones.
20. A stick product according to Claim 1 wherein the surfactant is polysorbate 20 or polysorbate 80.
- 10 21. A stick product according to any one of Claims 1-20 which is free of any silicones in the inner core.